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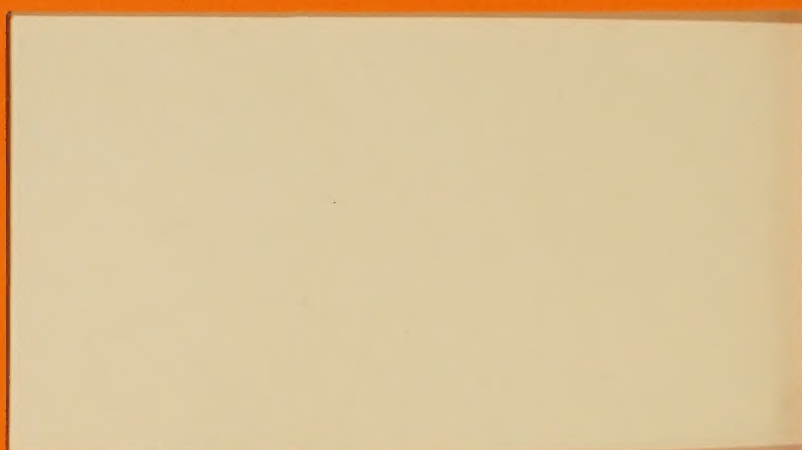
EVALUATING JOINT EFFECTS
OF EXTENSION PROGRAMS

by

Claude F. Bennett

Joint Planning
and Evaluation
Staff Paper

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PREFACE

This paper is a revision of a presentation at the annual meeting of the Rural Sociological Society, held in August 1980, at Cornell University, Ithaca, New York.

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EVALUATING JOINT EFFECTS OF EXTENSION PROGRAMS

ABSTRACT

Policy-makers, legislators and the public should know the joint effects of Extension's various programs, in addition to knowing the results of single Extension programs and program areas. Evaluating Extension's programs (e.g., urban horticulture) or program areas (e.g., agriculture, or home economics) simply on a one-by-one basis can lead to misestimates of the total amount of resources which should be allocated to Extension in order to accomplish State and Federal priorities.

Studies on the impacts of Cooperative Extension work are almost always confined to programs within one of the agency's four major program areas-- agriculture (and natural resources), home economics (and nutrition), 4-H youth and community and rural development. Extension's accountability efforts usually produce only separate reports on each of these four program areas. Extension's response to a recent Congressional mandate to evaluate economic and social consequences of Extension program was found to lack assessment of the inter-relatedness of Extension's program areas.

Previous, limited efforts to examine the combined effects of programs in Extension's different program areas have touched upon the effects of coordination of programs across two areas, and on perceived cumulative results from several program areas. But no studies have been found which sought to measure interactive effects or incongruous results of programs in different Extension program areas.

Reassignment of impact evaluation responsibility away from individual Extension program areas where it is now typically lodged, to a unit responsible for program evaluations, would facilitate studies on the interrelatedness of program impacts across two or more of the four program areas.

Social scientists can assist Extension in accountability and program improvement, and simultaneously strengthen the integrity of the social sciences, by focusing on and conducting multi-program area impact studies.

CONTENTS

| | |
|--|----|
| Preface | i |
| Abstract | ii |
| Introduction | 1 |
| Development of an Extension Evaluation and Accountability System | 2 |
| The Organization of Extension Program Evaluation | 4 |
| Implications of Weakness in the Integrative Aspect of Extension Accountability | 6 |
| Integrative Aspects of Extension Program Evaluation and the Social Sciences | 10 |
| Past Approaches to Evaluating Joint Effects of Extension Programs | 11 |
| Recommendations on Extension Program Evaluation Responsibilities | 14 |
| Implications for Social Scientists | 16 |
| References | 19 |

EVALUATING JOINT EFFECTS OF EXTENSION PROGRAMS*

Introduction

The Cooperative Extension system is examined in this paper as a case example in arguing for the importance of identifying through evaluative research the joint effects of different programs or program areas of an agency. Joint effects, results or consequences are defined as those which are produced in common by two or more programs or program areas. This paper cites the advantages of a broader look at the effects of Extension than of observing results of Extension programs only on a program-by-program basis. Because evaluation research is an applied branch of the social sciences, this paper links the relevance of evaluating joint effects of programs to the issue of integration within the social sciences.

This paper is based on the premise that any public agency should report the interconnections of the actual consequences of its various programs and program areas. Such reporting is necessary although obviously not sufficient for adequate accountability. This premise is based on the notion that the echelons of legislation and policy-making, and also the public at large, need integrative information on program results so as to intelligently determine the role(s) of government in addressing societal problems. Lack of understanding of the consistency or inconsistency of impacts of publically supported programs can lead to, for example: 1) funding programs which cancel each other's effects, leaving the problem(s) unsolved and the public treasury depleted; or 2) failure to fund programs that heighten the positive effects of other public programs, thus limiting both the solution of problems and the efficient use of tax monies.

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Development of an Extension Evaluation and Accountability System

Among agencies concerned with economic and social development, the Cooperative Extension system has one of the longest histories. In Extension's evolution as a significant arm of the land-grant universities, the scope and diversity of its programs have become increasingly wide. Extension provides nonformal education plus technical assistance, and occasionally service, to a range of audiences including food producers and consumers, community leaders, youth and families, those with low-income, the elderly, and urban as well as rural residents.*

A mandate by the United States Congress in 1977 for an evaluation of the economic and social consequences of Extension programs sent shock waves through the Cooperative Extension system. They still reverberate. The Congressional mandate constituted a quantum leap in the demand for national Extension accountability, on top of increasing requirements for individual State Extension Services to improve their accountability.** These developments, plus a current (1980-1981) United States General Accounting Office survey of the Cooperative Extension system at the Federal level and in several States, have added incentive to the work of the National Task Force on Extension Accountability and Evaluation Systems (Boyle, 1981). This task force has been charged by the Extension Committee on Organization and Policy (ECOP)*** with proposing an

*See "The Cooperative Extension Service," Chapter II in Evaluation of Economic and Social Consequences of Cooperative Extension Programs. Science and Education Administration, Extension, 1980.

**For example, see Joint Legislative Review Commission, Virginia Polytechnic Institute and State University, Extension Division. Virginia General Assembly, 1979.

***ECOP is a committee of the National Association of State Universities and Land-Grant Colleges, and represents the State Extension Services in their cooperative relationship with USDA.

overall approach to describing, evaluating and reporting Extension's program objectives, audiences, resource allocation, processes and results.

Agency accountability has many dimensions, but the definition of accountability in this paper is confined to communicating the results of agency program efforts to legislative and executive authorities. Program impact evaluations are herein briefly defined as formal, science-based studies of agency-clientele interaction and the results of such interactions for clientele and others in the society. Program impact evaluations are a major means by which an agency becomes nationally accountable.* This paper will focus on Extension's national accountability, and its impact evaluations, but the paper applies also in many respects to State Extension accountability and evaluations.

A program evaluation and accountability system for Extension, as for other multi-faceted agencies, should involve the "integrative aspect" of agency accountability. The integrative aspect of an agency's program evaluation and accountability focuses on interaction among an agency's programs and the results of such interactions. The integrative aspect may also include examining the interaction and joint effects of the agency's programs with those of other agencies. However, the agency is perhaps less responsible for this latter type of integrative evaluation than for studies of the joint effects of programs within the agency.

*Other major means of external accountability may include public hearings on an agency, the commissioning of expert or authoritative review of an agency's work, anecdotal reports by an agency on the effectiveness of its work, and management information system reports.

The Organization of Extension Program Evaluation

At both the State and Federal levels, Cooperative Extension is typically structured along four (to six) program areas--agriculture (and natural resources); home economics (and nutrition); 4-H youth; and community and rural development. Program areas have goals, subject matters, audiences, etc., which together with leadership and staffing extend usually from the county, to the area, to the State, to the Federal levels. In its early years, Extension's workers combined their efforts toward the farm family: the agricultural agent worked with the farmer, the home agent worked with his wife, and the 4-H agent worked with their children. Over the years, this coordinated approach to education has diminished, with each program area tending to go its own way, with fewer attempts to mesh program objectives and activities.

During the past twenty years, less than five percent of studies with research findings on the impacts of Extension programs have exceeded the scope of any one Extension program area.* Studies rarely exceed the scope of a single program area, e.g., 4-H, partly because program area directors at the State and Federal levels are typically responsible not only for developing and implementing programs, but also for evaluating and reporting on those programs.

*A recent review and appraisal of analytical studies according to evaluative research standards found methodologically warranted program impact findings in 45 studies of agriculture and forestry programs, 25 studies of home economics programs, 27 studies of human nutrition programs, 28 studies of 4-H youth programs and 16 studies of community and rural development program. Studies with warranted findings encompassing more than one Extension program area totaled eight (Kappa Systems, Inc., 1979).

Accountability statements are prepared by each program area director in conjunction with Extension budget proposals and program accomplishment reports. Thus, Extension program area leadership typically sponsors or conducts studies to describe, and to measure and evaluate the results of individual programs in the program area. Academic studies of Extension program results--though not sponsored by the Extension organization--have tended also to focus on programs within a single program area.

Studies commissioned as part of the Congressionally mandated evaluation of Extension programs (SEA-Extension, 1980) were conducted wholly within each of the four typical Extension program areas; consequences of Extension programs and programs areas were thus also reported wholly along program area lines.* Extension's annual budget justification statements to the Congress (e.g., USDA, SEA, 1980), which include reports of program results, are also written entirely on a program area-by-program area basis.

Extension's overall accountability efforts, then, are reduced as a rule to reports on the several major Extension program areas. Exceptions to the rule of evaluation and accountability structured by program area have occurred, and these will be referenced later in the paper relative to suggested modification of the organization of Extension's program evaluation and accountability efforts.

*The mandate from Congress (United States Congress, 1977) was for an evaluation "including [my emphasis] those programs relating to agriculture . . . , home economics, nutrition education . . . , community development and 4-H youth." The mandate thus did not necessarily dictate that the program areas be reported on only as separate entities.

Implications of Weakness in the Integrative Aspect of Extension Accountability

Policy-makers and legislators generally allocate funds to different agencies relative to their respective anticipated contributions to solving societal problems considered according to priorities (Rivlin, 1971). Anticipated agency contributions are based partly upon policy-makers' and legislators' estimates of past agency contributions to solving specified problems. In helping legislators and policy-makers to estimate the agency's ability to tackle identified problems, the agency should evaluate and report the joint effects of its programs and program areas as well as the effects of its particular programs and program areas. Considering the anticipated impacts of an agency's programs or program areas simply on a one-by-one basis can lead to misestimates of the total amount of resources which should be allocated to multi-faceted agencies like Extension.

In the case of Extension, the agency's total anticipated effects on a problem (including any joint effects of programs in the several Extension program areas) should be considered in budgeting for nonformal education to address the identified problem. Alternative approaches to addressing the same identified problem--i.e., the approaches of formal education, research, subsidies, loans, technical services, regulation, economic incentives and cost-sharing--should be compared with nonformal education when determining a policy approach and subsequently allocating necessary funds to the array of public agencies.

For example, the combined anticipated impact of Extension's four program areas relative to a national priority of energy conservation might be the focus in Federal funding for Extension. Extension's part in the overall anticipated impact of nonformal public education on the nation's energy problem through its programs with, e.g., farmers, agri-business, homemakers, community leaders and youth, could be compared with the anticipated impacts on energy conservation of: (a) formal education in publically supported schools; (b) research to produce energy conserving technologies; (c) subsidies or loans to enable the use of energy saving technologies; and (d) regulatory enforcement of the use of energy saving devices and practices. Extension's nonformal education on the advantages and means of energy conservation may, of course, have differing degrees of compatibility with other approaches to energy conservation.

Likewise, in considering budgeting for Extension relative to other agencies in regard to achieving adequate quantity and quality of food supplies, any complementary, supplementary or conflicting relationship of Extension's program areas should be considered. Commenting on the design of the evaluation of the consequences of Extension's programs in response to the Congressional mandate of 1977, a Citizens' Review Panel stated (SEA-Extension, 1980: Appendix 1):

"Many key policy issues are not addressed. There is no attempt, for example to assess the interrelatedness of Extension's components. What are the dynamics among the four program areas? What happens if those in the agriculture program champion the use of pesticides to increase the farmer's crop yields while those in home economics are concerned about the harmful effects of such chemicals?"

One may raise other questions similar to those posed by the Citizens' Review Panel regarding the consistency or conflict of consequences within and among Extension's program areas. For example, livestock, poultry and crop production programs increase food supplies, insofar as they are successful, which tends to decrease unit prices of commodities within inelastic markets. Do such production-oriented programs thus diminish the effects of Extension farm management and marketing programs which are oriented toward enhancement of farm income? Also, while Extension community development programs seek to help produce greater employment opportunities, one of the purposes of Extension home economics programs is to promote thrifty family production and consumption of goods and services. Do Extension home economics programs thus tend to limit employment growth through promoting family economic activities rather than marketplace activities? If so, what may be the implications of any such competing effects for the overall Extension budget in view of State and Federal priorities and shifts in these priorities?

The question of both intended and unanticipated complementary impacts among the program areas should be raised also. Three examples may suffice. (1) Both Extension community development and home economics program areas include objectives to improve family housing or to lower its costs. Yet, the typical organization of Extension program evaluation along program area lines provides no vehicle for examining cumulative or complementary impacts of housing programs in both the community development and home economics program areas. (2) How do the home economics and 4-H program areas complement or supplement each other in child and youth development and in family relationship programs? Programs in these two program areas with similar intent of this nature appear to be seldom considered for joint planning or evaluation at the State or Federal levels in

Extension. (3) All program areas appear to develop adult leadership at the local, county and State levels: 4-H cultivates lay leaders for 4-H organizational development and programs; community development helps to strengthen local and county reputational and positional leaders; agriculture programs help to develop commodity production and marketing leaders; and family living education programs help to prepare local citizens for a variety of community leadership roles. Communities and other jurisdictions cannot cope or thrive without effective leadership (Lassey, 1972). But what is Extension's contribution across all program areas to developing the leadership of nonmetropolitan America? Given the importance of the question, it is surprising that Extension has not attempted to supply an answer. In summary, in decisions on resource allocations to Extension and to other agencies, it would seem important to know the total Extension impact on problems such as housing, child development and adult leadership development.

Finally, how do the four Extension program areas interconnect, cumulate or diverge relative to their impacts on various demographic audiences or clientele categories, e.g., low-income persons, families or communities? And, how do total Extension impacts on given problems compare with or relate to total impacts of other agencies?

Extension programs may or may not be aimed at having interrelated impacts. Nonetheless, it is important to explore whether Extension programs do have joint, beneficial or adverse impacts, and (if so) to consider such impacts in program budgeting and planning. A recent publication by the Extension Committee on Organization and Policy (ECOP) reported selected examples of Extension program results under ten national goals, e.g., reduced unemployment, improved housing, and improved health (VandeBerg, 1979). Examples of program results under each goal were drawn typically from two or more Extension program areas.

This supports the inference that some Extension leaders perceive that accountability simply on a program area-by program area basis has less than maximum relevance to policy officials in the Federal executive and to the Congress.

Integrative Aspects of Extension Program Evaluation and the Social Sciences

Extension lacks accountability on its overall impact as a system, but there is a parallel in the social sciences. Leading social scientists such as Mills (1959), Gouldner (1970) and Habermas (1970, 1973) have charged that the effectiveness of the social sciences in contributing to governmental policy has been impaired by their over-reliance on a technical approach to problem solving and under-reliance on a holistic approach. These authors assert that the fragmentation and isolation of most social research avoids integrative concepts useful to policy considerations. Gregg et al. (1979:56) assert that:

"Social life does form a totality, and we must see it as a totality if we are to choose social policies wisely.

"Social science seems to have endorsed a kind of rationality that fragments and isolates--a kind of rationality appropriate to technical problem-solving but not to developing holistic conceptions of social life that could become topics for public debate on social policy issues.

Mills, Goulder, Habermas, and Gregg et al. identify a major reason for the near absence of integrative efforts in the social sciences by pointing out that social science has become intimately tied to the practical problems of existing bureaucratic control. Gregg et al. (1979) declare that as early as 1940, Robert Lynd diagnosed the social sciences as suffering from a tendency to focus on the

administrative problems of various social institutions and thereby they fail to examine the combined impact of those institutions on the lives of individuals and to American culture as a whole.

Lynd's diagnosis is clearly exemplified by the organization of Extension program evaluation. The existing, overwhelming concern regarding impacts of Extension programs within single program areas is appropriate to rational problem-solving for or within these Extension program areas. But, focusing almost totally upon program impacts within a single program area excludes adequate examination of how Extension program results in two or more program areas complement or conflict in relation to societal needs, governmental policies and program objectives.

Past Approaches to Evaluating Joint Effects of Extension Programs

Extension's need to strengthen the integrative aspect of its program evaluation and accountability justifies referencing the limited number of instances, known to the author, where program impacts of interrelated programs have been studied or compared. Those who aim at evaluating joint effects of programs may find help in such references. It is not the purpose of this paper to comment on the adequacy of the evaluative research methodology of the following, but rather to describe their focus.

1. Public Perception of Extension's Global Impacts.

Forest and Marshall (1977) interviewed a random sample of adults and a sample of community leaders in Shawano County, Wisconsin. Adults who had had considerable contact with Extension and the community leaders reported their opinions on the extent to which they and/or their county had benefitted from the overall Extension program (including all program area) in terms of, e.g., (a) home, health and safety, (b) natural environmental, and (c) economic improvement. Thus, the Shawano

county study focused on clientele's perceptions of the multi-year cumulative effect of all programs within a county Extension effort.

2. Studies of Small Family Farm Program Impacts.

Although emphasizing agriculture and economic impacts, studies by Hardee (1963), Ladewig and Edmondson (1972), and Strickland et al. (1976) reported evidence also on improvements in farm families' level of living. These studies focus on results for families of cooperation across two Extension program areas, i.e., agriculture and home economics.

3. Coordinated Studies of Extension Programs Having Similar Intent.

Programs in different Extension program areas, but having a similar objective--to assist people to recognize economic opportunities and improve their incomes--were studied by a national task force (Carpenter et al., 1980). Selected participants' perceptions of the impacts of the programs in which they had been involved (e.g., business and industry development; 4-H youth career development; small woodland management; small farms; and cottage industries) were obtained and compared as to the degree of similarity in reported economic results.

4. Convergence in Measured Consequences of Extension Programs.

The national review and appraisal of Extension Program impact findings from selected studies, 1961-1978, (Kappa Systems, Inc., 1979:1-14) shows some similarity of measuring devices (indicators) used in program impact studies in the several Extension program areas. Exhibit 1 presents these similarities.

Exhibit 1

Similar Extension Program Impact Indicators Across Extension
Program Areas, from Among 149 Studies included in Summary
(Vol. II) by Kappa Systems, Inc. (1979)

| Program Impact Indicators | Presence of Studies Appraised To Have Methodologically Warranted Findings on Program Impacts, Identified by Program Area |
|----------------------------------|---|
| Change in Level of Living | Studies in: agriculture, home economics and community development |
| Change in Income | Studies in: agriculture, home economics and community development |
| Change in Family Food Costs | Studies in: agriculture and home economics |
| Change in Outlook Toward Life | Studies in: home economics, community development and 4-H youth |

To summarize, previous efforts in examining the joint effects of Extension programs have barely touched upon the effects of program area coordination, perceived cumulative results of several program areas, and complementarity and similarity of effects across programs and program areas. But, no studies have been found which sought to measure the "dynamic among the four program areas" (relative to the critique by the Citizens' Review Panel) in terms of any synergistic or non-synergistic effects of programs and program areas; nor have there been studies which measure the extent of any conflict or incongruity of program results across Extension programs or program areas.

The author acknowledge that the technical problems in evaluative research on multi-program and multi-program area effects may be difficult. This is especially the case where there is lack of clear definition of the overall objectives for (a) total county, State or national Extension efforts, or for (b) individual programs at the county, State or national levels.

Recommendations on Extension Program Evaluation Responsibilities

In their seminal work on Federal evaluation policy, Wholey, et al., (1970:69-70) recommended that evaluation responsibilities be gauged to decisions at the policy-making and program management levels.

"Policy-makers most often are called upon to make choices among national programs, while program managers are most often called upon to make choices of emphasis or decisions on the future of individual projects within national programs."

Wholey et al. suggest that to avoid conflict of interest situations, no program leader should be responsible for evaluating the impacts of programs under his/her immediate direction. Thus, Wholey and others recommend that program impact evaluations, including evaluations of the joint effects of two or more programs, be conducted by those responsible to the agency or to a higher organizational level. Program strategy evaluations, which evaluate alternatives in program methodology, should be the responsibility of those with immediate program direction. This assignment of major evaluation responsibilities is "one way to start getting useful, objective evaluations" (Wholey et al., 1970:70).

The author's application of Wholey's position to Extension is that Directors and Administrators of State Extension work and the Administrator of the Federal Extension unit should provide for central evaluation staffs with the resources and authority to approve or conduct evaluations of program impacts. Acceptance of this recommendation would mean a reassignment of Extension impact evaluation responsibility away from the individual program areas*, where it is typically lodged.

The major point of the above discussion on Extension program evaluation responsibilities is simple this: an advantage of assigning responsibility for impact evaluations to an evaluation unit is that it would facilitate the consideration of studies on the interrelatedness of impacts of the several program areas.

*Extension program staff are ordinarily one set of users of evaluation studies, and should be members of advisory or steering committees to help guide evaluation efforts. Such guidance should include the posing of questions (e.g., as to the direction, audience, methodology and staffing of the program), which can be answered through evaluative studies. A realistic appraisal of the relative power of evaluation study units and program area units in Extension suggests the following principle: when authority for impact evaluations is vested with a central evaluation staff, program evaluation efforts can not long succeed without the consent and cooperation of program leadership.

Elsewhere, it has been recommended (SEA-Extension, 1980) that a national evaluation policy group comprised of representatives of State Extension Services and USDA be charged with several responsibilities including (a) identifying national needs for information on Extension program impacts; and (b) recommending priorities to States and SEA-Extension for focus, scope and type of evaluative studies to be carried out in a particular time period. Such a national evaluation group would be free to identify needs for evaluations involving more than one program area, and to suggest the nature of studies to inspect the dynamics of objectives, activities and impacts of programs in different program areas.

Implications for Social Scientists

As Cooperative Extension continues to develop State and national evaluation and accountability systems, social and behavioral scientists who are not part of the Extension organization may be called upon increasingly to assist Extension in evaluations for more effective accountability and management (i.e., program improvement). Beyond assisting Extension relative to these two functions of program evaluation, social scientists should remember that there is yet another perspective on the role of program evaluation--the knowledge perspective.

Chelimsky (1977) has defined this perspective as follows:

"In this view, the purpose of evaluation is to establish evidence leading to new knowledge about . . . problems, and about the effectiveness of governmental strategies for addressing them . . ."

Thus, social scientists must choose a balance for their own work in Extension program evaluation among the management, accountability and knowledge functions of evaluation.

In conceptualizing, designing and implementing, or consulting on holistic rather than fragmented Extension evaluation studies, social scientists need not be constrained by the "organizational blinders" which Extension (or any other agency) has adopted. It will be a test of the professionalism of social scientists to persuasively show Extension and other agencies, and legislative and executive policy-makers, the advantages to studies which transcend narrow programmatic interests and relate any joint impacts of programs to major national problems or goals. For example, a study of the joint effects of several Extension programs across program areas on how people, firms and communities cope with inflation could be useful to both program budget decisions and to social science.

Perhaps inter-disciplinary task forces will be best suited to advise Extension on the inclusion of, or to undertake, multi-program area studies within an overall agenda of evaluation studies. Each discipline will have valuable concepts to contribute. The sectors or areas of social well-being which a number of sociologists have dealt with (e.g., Klonglan et al., 1976; Ross et al., 1979) might be particularly useful conceptual tools for studies which are broad enough to comprehend competition, conflict, complementarity, cumulation, and synergism among Extension program areas. For example, many of the programs within the four areas in Extension could be hypothesized to bear jointly on the social well-being categories and subcategories of: (a) residential environment including community services; (b) economic status of individuals, groups and communities; (c) health and safety including human

nutrition and chemical status of the environment; (d) personal and family status and adjustment; and (e) participation in governance including leadership structures, alienation and group cohesion.

As social scientists assist Extension with a system of evaluation studies (SEA-Extension, 1980:160-165) they can further Extension's accountability and management and at the same time strengthen the integrity of the social sciences by supporting multi-program area impact studies.

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